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FEATURE ARTICLE

2

Empirical quagmires

WORK IN PROGRESS

5

Plantation medicine in Malaya

ARV therapy in Zambia

Vaccinator's 'lost' portrait is found

Travelling dispensaries in Malaya

History of medicine through fungi

CONFERENCE REPORTS

11

Human reproduction
and embryo research

Long-term changes in health

History in public health workshops

BOOK REVIEWS

16

VIGNETTE

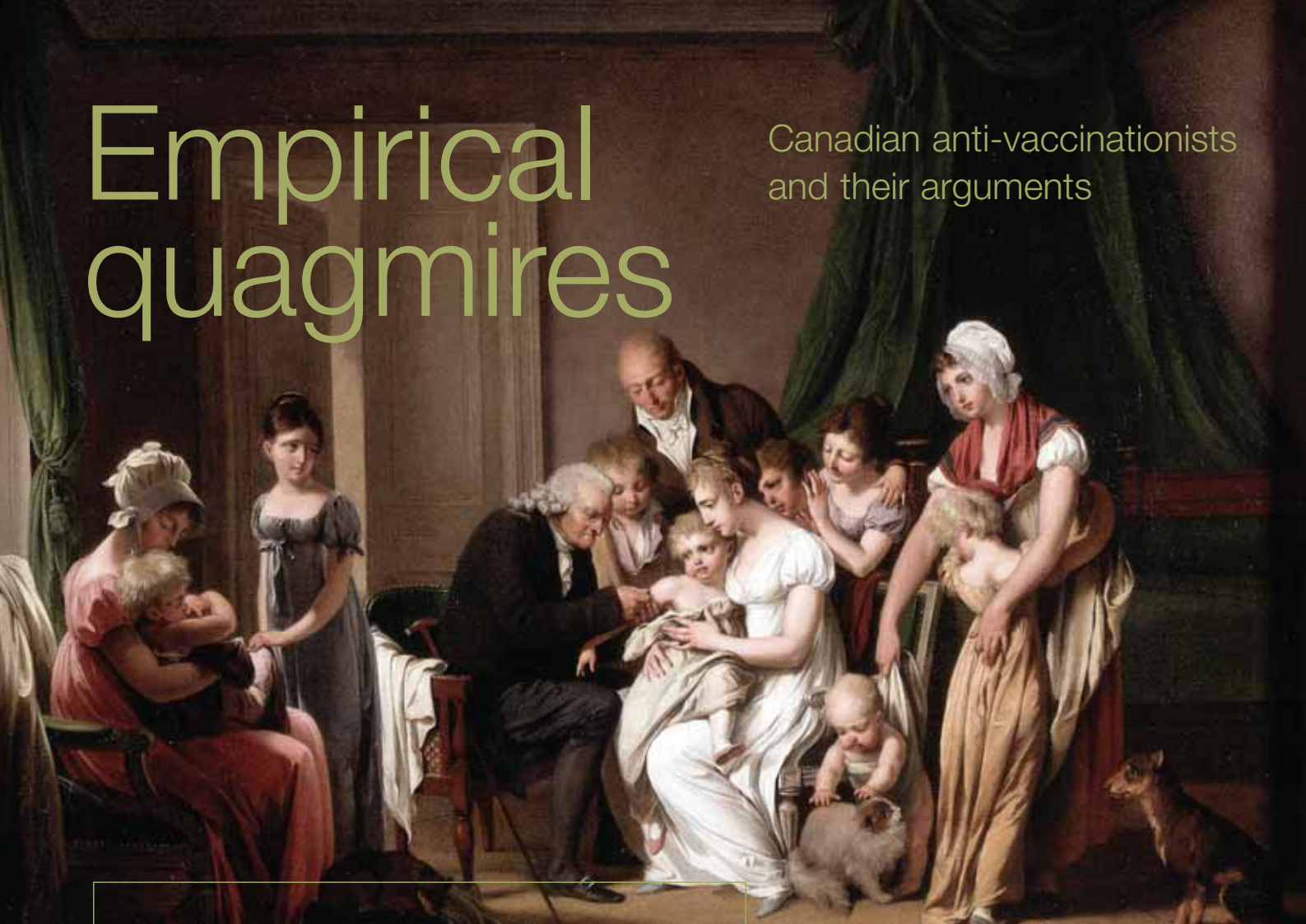
22

CALENDAR

24

Empirical quagmires

Canadian anti-vaccinationists and their arguments



J E KEELAN

Despite campaigns promoting universal vaccination and repeated threats of compulsion, it appears that vaccination was cautiously consumed in the Canadian medical marketplace – as was any other medical nostrum.

This consumer hesitance towards the technology persisted in Canada despite many attempts to make vaccination a routine medical procedure for every infant before the age of three to four months. Even when physicians endorsed it, they often used their clinical judgement before vaccinating, and many were reluctant to vaccinate children who were sickly, had skin irritations or rashes, or were teething. The faith the public had in vaccination was shaken by arguments presented in anti-vaccination literature. Letters of conversion sent to the Canadian Anti-vaccination League indicate that such late 19th-century campaigns were effective in convincing some members of the public, even regular physicians, to abandon or refuse vaccination for themselves and their children.

Above:

A young child being vaccinated. By Louis-Léopold Boilly, c. 1807.

Cover:

Anti-vaccinationists in retreat. Coloured etching by Isaac Cruikshank, 1808.

Smallpox vaccine had in fact been available for nearly 70 years when the disease became recognisably epidemic in Montreal. At the same time, in 1870–72, a severe smallpox epidemic devastated Europe and the UK,

where vaccination programmes were far more advanced. Across the Western world, anti-vaccinationists interpreted this epidemic as proof that vaccination had failed to provide the protection against smallpox it promised. As historian Margaret Schibuk argues, by the 1830s, the optimism surrounding vaccination was tempered by overwhelming evidence that it did not provide perfect or lifelong immunity to smallpox, as originally argued. Pro-vaccinationists responded to this relative failure by attempting to refine the technique of vaccination and to improve the potency of the vaccines used.

The claims made about the protective nature of vaccination were diverse and were repeatedly modified to account for the disappointing performance of the technology. Data collected to prove its effectiveness provided an increasingly conflicting picture of its actual impact on the disease. Recently vaccinated patients with ‘good’ signs of vaccination caught the disease, and smallpox hospitals were full of vaccinated patients. While vaccination seemed to provide some transient protection against the most serious forms of smallpox, even recently vaccinated people could die of smallpox, and it was not clear whether or not the higher death rate among the unvaccinated (who were primarily young children) reflected the pattern of mortality of the disease itself, rather than the lack of protection.

Vaccination supporters read into the empirical data a failure in the current practice: the protection from vaccination somehow wore off; the vaccine used was of

poor quality; the vaccinator had to raise at least three good vaccine pustules or else the protection was scant; many vaccinators were simply poorly trained and mass public vaccination was implemented badly. A popular medical textbook reinforced this notion by stating: "Operations for hernia and for stone, for instance, if roughly, carelessly, and badly done, end badly; so it is with vaccination: and so far as the public are concerned, it is quite as objectionable to them no doubt, to die of Small-pox because they have been carelessly and badly vaccinated..." Those less committed to the concept saw the empirical failure of vaccination as proof that it had been misrepresented and its effectiveness exaggerated. As a leading Canadian anti-vaccinationist stated: "Vaccination and re-vaccination, whether from small-pox inoculation, cow-pox, horse-grease, swine-pox, or human corruption, has proved impotent to prevent or mitigate small-pox epidemics."

Both anti- and pro-vaccinationists confidently asserted that science was on their side and that only a large-scale collection of epidemiological data, elimination of observer bias, and clarification of the clinical categories involved in assessing vaccine's efficacy would resolve the issue. This meant that new rules of evidence had to be created to determine whether or not a vaccination scar was 'true' or 'false', and a method of measuring the impact of vaccination across populations would have to be invented. However, the binary labels of vaccinated versus unvaccinated, and wild smallpox versus mitigated smallpox, were themselves contingent categories.

Vaccine's effectiveness was often measured by the apparent mitigation of the disease among the vaccinated. The clinical mitigation of the disease was judged based on whether or not a vaccination scar represented immunity. The categorisation of whether a scar indicated immunity was itself determined by the apparent mitigation of the disease among the vaccinated. Distinguishing between a vaccine-mitigated case of smallpox and the possibility that the person was infected with a mild variety was a matter of clinical judgement. If the person had a scar, then the clinician had to decide whether or not it represented protection, or whether this really was a spurious vaccination. Anti-vaccinationists such as Alfred Russel Wallace had no difficulty deconstructing the underlying theoretical assumptions behind these categories and used the available data to argue that vaccination neither prevented the individual from catching the disease nor mitigated it, and could not be credited with decreasing the overall mortality from smallpox.

In Canada, the statistics presented an equally ambiguous picture. During the 1885 epidemic in Montreal, more than 40 per cent of the patients admitted to smallpox hospitals had been vaccinated. Without good data on how many people in the population were vaccinated and did not catch smallpox, the admission of large numbers of vaccinated patients to the smallpox hospitals seemed to reiterate the failure of the technology. This was used by anti-vaccinationists to argue that it



certainly failed to prevent smallpox. Whether or not the lower rate of mortality among the vaccinated was a real effect could not be resolved by the available data presented and preserved by the local health officials.

Two years before the 1870 European pandemic, a prominent Montreal surgeon gave a talk before the Medical Institute on the ill effects of vaccination. Dr Joseph Emery Coderre had suffered the loss of two of his eleven children; both died shortly after being vaccinated. Having renounced vaccination forever, he appeared before an audience of physicians to persuade them that its dangers had been grossly miscalculated and the risk of catching smallpox exaggerated. Coderre presented the cases of two other children who died following vaccination and reported that children also suffered from severe and persistent ulcerations on their arms after vaccination. The ulcerations were forbiddingly similar to syphilis, appeared to be transmitted via vaccination, and were resistant to the standard medical treatments.

Coderre, an established and respected surgeon, was the voice of French Canadian anti-vaccinationism until his death in 1888. In 1872, he and a group of Montreal physicians formed the first Canadian Anti-vaccination League. Coderre's reputation as a physician, skilled surgeon and teacher does not appear to have been sullied by his staunch anti-vaccinationism. His resistance was sustained in the face of an increasingly organised and powerful medical profession, whose claims to authority

Above:

A common poor outcome from vaccinating a child with the skin condition eczema, 1898.



over specific kinds of knowledge were encapsulated in public statements endorsing vaccination. In one instance, Coderre was openly criticised for having circulated the photo of a child who was suffering from post-vaccination erysipelas – a serious infection of the vaccine site. Members representing the burgeoning medical establishment argued that Coderre erred by allowing the public to judge medical data and risk for themselves, without the interpretive lens of the medical profession.

These debates over vaccination reveal the underlying tensions between groups of physicians over the nature of medical evidence, medical authority and professionalism. But the boundaries and contexts of what constituted real scientific medicine, or regular medicine and its authority, were themselves being constructed in this period. As Allison Winter's contextualist work on the history of mesmerism illustrates, the moves by various groups to capture and define science and medicine had limited success in sensitising the Victorian public to their own particular programme of science or medicine. The public, welcoming itinerant lectures and 'unorthodox' views, often had a more democratic understanding of who could speak for science and medicine. What might have been defined by the Canadian medical establishment as unorthodox or irregular medical advice was not necessarily perceived as such by the general public in Canada.

Thus, it is not surprising that anti-vaccinationism quickly became an influential political and social reform movement where like-minded people could share resources and draw upon a broad pool of data and expertise. Prominent scientists who supported the anti-vaccinationists included Alfred Milnes and Alfred Russel Wallace. The Countess de Noailles and Lady Morgan also wrote letters of support to the Canadian Anti-vaccination League. The blue blood and scientific status of many of the foreign correspondents effectively

challenged the pro-vaccinationist's stance that all of their opponents were illiterate cranks. Obviously the notables that lent their names to the League would have had enormous social currency in late 19th-century Canadian society. Pro-vaccinationists merely cast doubt on their own credibility when trying to assert that no rational person questioned vaccination.

Compulsory vaccination, by definition, was a politicised object. Without clear evidence that it was safe, and without a present danger from the disease, compliance with compulsory vaccination was configured as a patriotic and selfless act that represented and underlined a citizen's sense of community. This tactic was successful in ensuring conformity among members of certain sectors but was bound to provoke defiance in groups suspicious of particular governments or nascent medical authority or both, and certainly fanned the flames of resistance among marginalised French Canadians and among groups agitating for political or medical reform. Beyond the overt political configuration, anti-vaccinationists were successful in throwing doubt on purported claims of vaccine's safety and efficacy. By disseminating reports of serious side-effects, questioning the theoretical and empirical basis for vaccine programmes, and adding the cultural context that compulsory vaccination was in the interests of a paternalistic and monopolistic medical profession, the movement both stimulated and reflected resistance to compulsory vaccination in the last decades of the 19th century.

J E Keelan is a postdoctoral fellow with the Comparative Program on Health and Society at the Munk Centre, University of Toronto, and a Canadian Social Sciences and Humanities Research Council postdoctoral fellow at both the Wellcome Trust Centre for the History of Medicine at UCL and the Kennedy School of Government, Harvard University. She recently completed a doctoral thesis entitled 'The Canadian Anti-Vaccination Leagues, 1872–1892'.

Above:
A good vaccination showing the classic pustules – five shown here (left) and a good vaccination that should be used for harvesting lymph (right).

Plantation medicine in colonial Malaya: Indian rubber plantation workers, estate hospitals and workers' health, 1900–1950

AMARJIT KAUR

In the early 20th century, the frontier rubber plantation settlements of Malaya were very unhealthy places. The migrant Indian workforce was exposed to new disease environments and suffered very high mortality rates.

By about 1920, the rubber industry was well established and there was a decline in death rates. Six interrelated factors account for this decline. These were: improved health and hygiene routines on board ships carrying migrant workers; health regulations and control of communicable diseases at ports of entry; research and disease surveillance initiatives directed at controlling/eradicating disease; expanded public health and medical services; improvements in workers' living conditions (a standard wage, housing, water supply and sanitary conditions); and plantation medicine/medical services.

The project will provide an important perspective on the epidemiology of Indian labour migration to Malaya.

Rubber plantations and plantation workers

Soaring demand for rubber (and tin) in the West in the early 20th century coincided with Malaya's greater integration into the international economy through increased trade, capital and migrant labour flows. Labour recruitment for the plantation sector was regulated, unlike mining labour, and was dominated by Indians. Four groups – the Colonial Office in London, the India Office, the Malayan administration and the powerful rubber companies – were involved in the arrangements (recruitment, terms of labour contracts and employment relations, shipping and travel) for the plantation workers' sojourn in Malaya (Kaur 2004). Tin-tickets issued to the illiterate migrants, which were also used for identification purposes, specified their destination, and for some, their final resting place. In 1911, the death rate per thousand in the Federated Malay States plantations was 62.9, but by 1921 this had dropped to 18.19 per thousand (on some individual estates the figures were much higher). Recent work on the subject (Manderson 1996, Shlomowitz and Brennan 1992 and Kaur, in press) has explored some of the explanations for declining mortality rates.

This project investigates the development of plantation medicine and its contribution to the long-run decline in death rates in the plantation sector. It aims to answer the following questions: what kinds of policy informed the mechanisms for regulating and monitoring the implementation of health protection for workers? And how did these policies shape plantation medicine?

Plantation medicine

Plantations were isolated rural settlements and represented the boundary of existence for workers. Consequently, medical services had to be provided *in situ* for them. There were three main reasons for the development of plantation medicine. First, the Malayan administration was not immune to demands for reforms and better treatment for Indian workers from the India Office and Indian nationalists, particularly when these were couched in terms of Indian labour withdrawal. Second, the Malayan rubber industry's viability and profitability in frontier conditions could best be achieved through continued retention and maintenance of the labour force and the managerial class by providing preventative and curative medical services. Third, while the State sought to reinforce colonial hierarchies, one of its prime objectives was to legitimate colonial rule and thus provide a moral logic for colonialism.

Plantation medicine rested on three main principles:

- survival of the workers through a reduction of mortality and morbidity rates
- delivery of primary healthcare through the establishment of estate hospitals/dispensaries, staffed by orderlies (estate health assistants) and visiting medical officers
- control of diseases such as malaria through anti-malarial measures, insect control and the use of prophylactics.

The project will provide an important perspective on the epidemiology of Indian labour migration to Malaya. Moreover, an understanding of plantation medicine involves examination of the evolving formal framework of labour codes, the Labour Department and the hierarchies of officials who monitored the implementation of protection for workers, and of the practices that these officials brought to their work.

Professor Amarjit Kaur is attached to the School of Economics at the University of New England, Armidale, Australia. She was a British Academy Visiting Professor attached to the Wellcome Trust Centre for the History of Medicine at UCL in July and August 2004.

A history for 'ghosts': contextualising ARV therapy in Zambia

LYN SCHUMAKER

The idea came to me in 2002 while watching a dance troupe performing a health education drama in a small village in Zambia. The storyline concerned a girl who caught HIV because her parents were too poor to send her to school, which forced her to work as a bar girl and prostitute.

As she coughed and swooned to a death by HIV-related tuberculosis, I realised that public health drama says a great deal about the dramatic structure of an epidemic in the popular imagination.

In 2002, my interest in tuberculosis derived from a Wellcome Trust University Award project on mining and medicine in Zambia. I had interviewed many retired Zambian miners about their historical experiences of disease, including mining-related tuberculosis. As Charles Rosenberg has shown, an epidemic's dramatic structure reveals transformations in popular and medical understandings of a disease. Now, watching this public education drama, I found myself witnessing a key moment in the historical drama of tuberculosis – its transformation from an honourable affliction (associated with the mining industry that had built the nation of Zambia) into a sexually transmitted disease associated with economic desperation and sexual immorality.

This incident led me to consider what difference these changing disease models make to more practical concerns – for example, to practitioners' introduction of new therapies and to patients' responses to novel medicines and medical practices. In 2003, I applied for a Wellcome Trust pilot grant proposing to explore the relevance of these issues for the introduction of anti-retroviral (ARV) therapy for HIV/AIDS and the design of culturally sensitive treatment programmes. This study would use the store of historical information I had previously gathered about African responses to past introductions of Western medicine. And it would allow me, as a historian, to learn new methods and new perspectives from medical anthropologists and medical researchers on the front lines of the HIV/AIDS and tuberculosis epidemics. My co-investigator was the medical anthropologist Dr Virginia Bond of ZAMBART (a long-term collaborative project between the University of Zambia School of Medicine and the London School of Hygiene and Tropical Medicine).

In June 2004 I flew to Zambia, first going to Victoria Falls for a conference on heritage in Africa, where there

was some discussion of loss of African heritage due to the HIV/AIDS epidemic. I joined the debate with a quotation I had come across while catching up on the AIDS literature at the conference: "The media distorts," an International HIV/AIDS Alliance report quoted a Zambian living with HIV. "It makes us look like ghosts; they need to make it less mysterious and less like dying and the end of the world..." This quotation referred to the social death that accompanied an HIV-positive diagnosis – a social death many Zambians have experienced, becoming living ghosts and no longer a part of history. I suggested that perhaps medicine, medical anthropology and history of medicine might work together to make sense of this experience of death in life.

This was an opportune moment both to think about the HIV/AIDS epidemic in historical perspective and to start a project on ARV therapy. The Zambian research community and the public and patient activist groups were buzzing with discussion of the recent arrival of the first ARV treatment programmes. In Lusaka, Zambia's capital, we developed questionnaires for the study while waiting for ethics permission for interviews with patients from the first cohort to receive ARV therapy. Indeed, the ethics permission for our study was delayed because our proposal had landed on the committee's desk at the beginning of a surge of proposals to study the medical side of ARV introduction. Ours was the only 'sociohistorical' study, however, and when permission was granted we discovered enormous interest in our approach, from patients and practitioners alike. We proceeded with a hectic schedule of individual patient interviews and focus group discussions with patients and practitioners.

Now, as we work on our initial results, I realise the rarity of being able to observe such an important human health transition in progress. This was also a unique opportunity to observe a medical transition. As in past medical crises, such as the cholera years of the early 19th century and the global influenza pandemic of the early 20th century, Western medicine has been seen as a failure in the face of the AIDS epidemic in Africa. But with the introduction of ARVs, it is experiencing a transformation from failure to coping. Thus, our study should also enrich our understanding of these past transformations in medical history.

Most importantly, however, we hope we will be able to participate in the writing of a history for those who are returning from the dead, for the 'ghosts' who are now rejoining human history.

Dr Lyn Schumaker is a core member of staff attached to the Wellcome Unit for the History of Medicine at the University of Manchester.

The first vaccinator's 'lost' portrait is found

PATRICK J PEAD

A growing number of medical historians now recognise the farmer Benjamin Jesty as the first to devise and perform a vaccination.

Jesty's use of cowpox to prevent infection with smallpox in 1774 predated Edward Jenner by 22 years. The circumstances of his vaccinations in Dorset have previously been detailed and further research has confirmed Jesty's priority.

He was honoured in a small way by the Original Vaccine Pock Institute. This included a commission of his portrait in oils by the London artist Michael W Sharp in 1805. The painting was exhibited at Somerset House before being hung at the Pock Institute, and later at the home of Dr George Pearson, who was Director of the Institute. When Pearson died in 1828, the portrait was given to the Jesty family, and was last viewed by Dr E M Crookshank during a visit to Dorset in 1888. It then disappeared during the early 1900s and was thought to be lost.

I have been fortunate to be able to re-establish the existence of this portrait after a long search. It measures 140 cm by 110 cm, is still set within the original frame, and is located in the Eastern Province of South Africa. The present owner wishes to remain anonymous for reasons of security. A photograph of the portrait is



reproduced here (above) to mark the 200th anniversary of its painting. Although illustrations of Say's monochrome engraving have been reproduced in various books and journals, this publication of the original oil portrait of Benjamin Jesty in colour is a first for the medical science community.

Patrick J Pead has recently retired from the Department of Molecular Microbiology at the University of Southampton. He is completing a manuscript intended for a book on the origins of vaccination ([E padlin@btopenworld.com](mailto:Epadlin@btopenworld.com)).

New publication



Fractured States: Smallpox, public health and vaccination policy in British India, 1800-1947
by Sanjoy Bhattacharya, Mark Harrison and Michael Worboys.

Fractured States is an extraordinarily detailed account of efforts at smallpox control measures in colonial India. Departing from established analytical stereotypes, it seeks to focus on bureaucratic roles and functions in an attempt to understand why smallpox control policies and programmes were not as successful as they should have been. This work gives as much weight to the political, economic and scientific factors affecting the extension of vaccination as to the cultural and religious responses of this medical intervention. The complexities of conflicting medical technologies, bureaucratic disharmonies and widely varying civilian responses have been vividly captured in this comprehensive monograph.

By stressing an empirical rather than ideological approach, the authors posit a new perspective on the attempts of a deeply divided colonial administration and scientific establishment to control a highly infectious disease. Making extensive use of the enormous documentation generated by the Raj, this book also conveys the immediacy of the issues of smallpox control that so dominated public health policy in colonial India. Lucidly written, cogently argued and highly readable, this book has much to offer to both a specialised and a general readership.

Published in: New Perspectives in South Asian History, Orient Longman India Ltd and Sangam Books UK (ISBN 0 86311 838 2).

Buyers in the UK and Europe should contact Anthony de Souza (E.sangambooksuk@gmail.com); buyers in the rest of the world should contact Orient Longman Private Ltd (E.cogeneral@orientlongman.com).

Travelling dispensaries and rural health visits in British Malaya (1896–1960s)

KAI KHIUN LIEW

From the late 19th century to the middle of the 20th century, the medical needs and conditions of the Kampongs (villages) of the Malaysian Peninsula were served and monitored by a mobile network of government health workers.



The visits by highly qualified medical practitioners to nurses and public vaccinators were familiar to many villagers. Their works were also supported by platoons of government-paid drivers, motorcyclists, boatmen and even porters delivering medical aid and drugs to the most remote rural settlements. Collectively, this health network was known as the travelling dispensaries. Conceptualised in 1896 by Dr Hamilton Wright, the medical officer for the Malay state of Perak, this practice manifested not only the enlarged responsibilities of the British colonial state from its previously urban trading settlements to the rest of the Peninsula. More importantly, it also demonstrated attempts at introducing modern biomedical practices into the seemingly impenetrable rural heartlands in Malaya.

The travelling dispensaries were crucial to the colonial health services. For a population of about five million by the eve of World War II, there were about 30 travelling dispensaries (including three using river boats). In spite of their small numbers, these dispensaries had played a major component in the provision of outpatient services. In one Malay state – Johore – there were five motor travelling dispensaries dealing with about 160 000 cases in one year. The travelling dispensaries and health visits were known for several functions: delivery of medical aid, monitoring of health conditions, and providing preventative and educational health services. At a more rudimentary level, they were tasked with the role of bringing medical supplies to the rural districts and police stations, and ferrying the more seriously ill villagers to the nearest medical centres. Perhaps the most distinctive of the dispensaries were

the picturesque ‘floating clinics’ on longboats, serving riverine communities in the colony. By 1938, some of the boats were equipped with outboard motors to enable them to cover greater distances. They were mostly operated by locally trained junior medical staff, who played the dual role of drivers and dressers.

Among the rural health activities, the area of child and maternal healthcare seemed to be given greater priority. Blaming the seemingly high infant mortality rates in villages on ignorance of the importance of proper nutrition and antenatal care, the authorities were keen to educate the local women on the virtues of ‘modern’ gynaecological and paediatric methods. Comprising mainly English women nurses, the rural health visiting teams could be seen stepping out of wooden boats to offshore islands or braving thick vegetation into the hamlets of villages. There, they provided not just ‘training’ for local midwives (*‘bidans’* in Malay), but also instruction to mothers on what were considered correct methods of infant care, from breast feeding to disease prevention. Through these visits and travelling dispensaries, the rural communities of British Malaya were being introduced to the world of Western biomedicine – thanks to advances in motor technology and the extension of roads in the colony.

While it still remains difficult to gauge the impact on the local inhabitants, the significance of the travelling dispensaries began to decline after World War II. To begin with, the unique floating dispensaries were completely destroyed during the Japanese occupation of 1942–45, and were never wholly restored. The period of the communist insurgency that took place predominantly in the rural areas during 1948–60 also made such visits by health workers difficult. This was coupled with the “enormous increase in the number of outpatients” caused by the conflict.

But it was larger socioeconomic changes, especially post-independence, that reduced the importance of the travelling dispensaries. In Malaysia, this was the result of the emphasis in the early 1960s on the establishment of permanent rural health centres (supplemented by four sub-centres) to cover the “entire range of medical work”. In place of land and river transport was the availability of helicopters from the Royal Malaysian Air Force to fly seriously ill people from remote areas to the urban hospitals. In neighbouring Singapore, the travelling dispensaries and health visits became redundant as the rural population had dramatically shrunk by the 1970s, owing to the accelerated pace of urbanisation alongside the vast extension of roads and public transport.

Above:
A district health unit in Malaya.

Kai Khiun Liew is a doctoral candidate attached to the Wellcome Trust Centre for the History of Medicine at UCL.

History of science and medicine through fungi

AYA HOMEI

When the mass production of penicillin and other antibiotics started in the late 1940s, it became increasingly clear that the high-profile infectious diseases of microbial origin were on the decline. In contrast, infections with microbial fungi were on the rise (albeit on a different scale), and some claimed that antibiotics triggered these diseases.

In 1950, Lorenz Zimmerman at the Walter Reed General Hospital in New York City reported three cases of endocarditis caused by species of *Candida* and *Aspergillus*, which were “apparently stimulated” by the constant use of penicillin; subsequently, others filed similar cases. In the 1960s, incidents were publicised of mycotic infections in people with cancer and having organ transplantations, who went through immunosuppressant stages in their therapy. Later, in the 1980s, systemic fungal infections in AIDS patients were reported, and this – along with the incidence of mycotic diseases among severely injured, diabetic or immunosuppressed people – prompted medical mycologists yet again to voice their concerns over the rise of life-threatening mycoses.

Since September 2004, Professor Michael Worboys and I have been working on a new project – *Aspergillus*, Aspergillosis and Modern Medicine, 1900–2000 – at the Wellcome Unit for the History of Medicine, University of Manchester, in which we survey the medical and scientific practice and theory surrounding the mould *Aspergillus*. This project has grown out of an earlier collaboration between our Outreach Officer, Dr Emm Barnes, and Dr David Denning, a leading

medical mycologist based at the University and at Wythenshawe Hospital in south Manchester.

Our project will expand on the preparatory work compiled by Dr Barnes in terms of both themes and time range. We are particularly interested in three dimensions. First, in contrast to the institutional development of other medical disciplines that arose in the 19th and 20th centuries and whose names were derived from the organisms of their interest (bacteriology, virology or even microbiology), medical mycology appears, in many parts of the world, to be a fluid and virtual subfield where scientists and physicians from diverse disciplines (dermatology, pathology, botany, internal medicine, oncology, molecular biology and veterinary medicine, among others) have examined diseases caused by fungi.

The history of Taka-diastase and Sankyo grants us new insights into the position of pharmaceutical industries within globalised 20th-century medicine.

One issue on our research agenda is to map the shaping of the discipline through the lens of debates and research on aspergillosis. We will look at three countries – the UK, the USA and Japan – to understand how local, geographical, political and economic conditions (for instance, the link of medical mycology with tropical medicine in the UK, experiences with endemic systemic fungal infections such as coccidioidomycosis in the USA, and the familiarity with moulds as economically useful microorganisms as well as the German-style medical research tradition in Japan) impacted on the historical process.

Secondly, through this project, we will attempt to gain a different perspective on 20th-century medicine by focusing on the notions of ‘emerging disease’ and ‘iatrogenic disease’. Invasive aspergillosis ‘emerged’ in the 1960s as an iatrogenic disease, a result of the use of antibiotics and other ‘wonder drugs’ such as cortisone. Yet there was always a discrepancy between how aspergillosis emerged in the laboratory and research settings and at the clinical level. In the clinic, medical mycologists were concerned with how the disease in many cases may have been left undetected, how it was ‘submerged’ under the diagnosis of other diseases. Concern with iatrogenic disease has characterised a significant part of the risk-centred, consumer-oriented medicine since the 1960s, so much so that medical sociologists and ethicists intensively critiqued this condition during the period. To analyse and contextualise medical practices surrounding aspergillosis in the light

Below:

It has been claimed that antibiotic use has contributed to the rise in microbial fungal infections.





Above:
Scanning electron
micrograph of
Aspergillus
producing spores.
*D Gregory and
D Marshall*

of these two concepts thus not only offers plausible historical explanations as to how these terms ‘emerged’ but also deepens our understandings of the nature of late 20th-century medicine.

Finally, we are investigating areas of scientific practice in which *Aspergillus* was regarded not as a pathogen but as a source of human benefit. To the Japanese, for instance, *Aspergillus* – commonly known as *koji-kabi* – is a most familiar mould, with its long-standing biotechnological uses in the preparation of staple condiments such as *miso* (bean paste), *sho-yu* (soy sauce) and *sake* (rice wine). In the early 20th century, the application of *Aspergillus* departed from the empirical and traditional methods of the food industry, when the Japanese chemist Jokichi Takamine began to tinker with the mould. In 1894, Takamine patented the preparation process of Taka-diastase, a digestive enzyme generated as a result of the metabolism of *Aspergillus*. Takamine had initially granted the licence

to his patron, Detroit’s Parke, Davies & Company, but in 1899 also offered exclusive sales rights to the entrepreneur Shiobara Matasaku, who with two colleagues established the Sankyo Shoten company in Japan, which was to specialise in Taka-diastase.

Sankyo quickly grew, and today it is one of the biggest Japanese pharmaceutical companies. The history of Taka-diastase and Sankyo grants us new insights into the position of pharmaceutical industries within globalised 20th-century medicine. But also, with the examination of Takamine’s styles of experiment, innovation and entrepreneurship based around *Aspergillus*, which resonate with those of other contemporary chemists and ‘zymotechnologists’, we hope to learn more about how biotechnology was involved in the production of medicine. For this part of the project, we are collaborating with Professor Joan Bennett, a molecular biologist at Tulane University specialising in *Aspergillus*, who is also an expert on the biography of Takamine.

Through this wide-ranging project dealing with fungi and fungal diseases, we hope to gain a fresh perspective on the history of 20th-century medicine, the institutionalisation of medical fields and the roles of practical sciences in medicine. By considering *Aspergillus* not only as a pathogen but also as a resource in applied sciences, we can illustrate in detail the diversity that the study of moulds entails. *Aspergillus* is an optimal focal point for this: it pervades globally, it ‘emerged’ in the scientific theatre of the 20th century and, above all, the fungus touches on various central issues in the history of recent science and medicine.

Dr Aya Homei is a Research Officer attached to the Wellcome Unit for the History of Medicine, University of Manchester.

Medical records in the South Wales Coalfield Collection

This one-year project, currently underway at Swansea University, is the result of a successful funding application by the School of Health Science, and Library and Information Services, to the Wellcome Trust’s Research Resources in Medical History scheme. The project began in January 2005, with Professor Anne Borsay (School of Health Science) as Director and Dr Sara Brady as Research Assistant.

The objectives of the project are: to identify and record holdings within the South Wales Coalfield Collection (SWCC) that are most relevant to the medical history of the Coalfield; to produce an annotated guide for

publication; and to hold a one-day conference to promote and discuss medical history in relation to the Coalfield.

The conference is entitled ‘Accessing the Medical Past: The occupational and community health of the South Wales Coalfield’ and will be held on 14 December 2005 at the School of Health Science, Swansea University. Speakers will include Professor Anne Borsay, Professor Chris Williams (Swansea University), Dr Arthur McIvor (University of Strathclyde), Dr Jo Melling (University of Exeter) and Dr Steven Thompson (University of Wales, Aberystwyth).

Contact Sara Brady (✉ s.brady@swansea.ac.uk) for further information.

Human reproduction and embryo research

VICTORIA BLAKE

The Centre for the History of Medicine and Disease, University of Durham, held its third workshop in the Wolfson Research Institute, Queen's Campus in Stockton, on 10 December 2004, bringing together academics and students from philosophy, health, medicine, history, biology, anthropology, theology and biotechnology.



In his introduction, the Director of the Centre, Holger Maehle, referred to a topical discovery in British stem cell research, reported in the German weekly magazine *Der Spiegel* on 2 December 2004. The new technique described, which allows harvesting of embryonic stem cells from blastocysts developed from chemically treated rather than fertilised human egg cells, seems at first glance to circumvent ethical problems. However, Maehle noted that this technique is unable to solve the problems linked with the human embryo's moral status. Issues surrounding egg donation for research rather than infertility treatment, and the question of whether it can be guaranteed that cells cloned from the egg donor will be incapable of development into a human, still remain. Problems still abound with informed consent to embryo donation in the context of IVF, and there are uncertainties about whether the new technique can yield stem cells equally useful to those derived conventionally from 'real' embryos.

This example served to address two main themes of the workshop. First, historical legacies have powerful effects upon current issues in reproductive medicine. There are notable differences in debates, legislation and policies

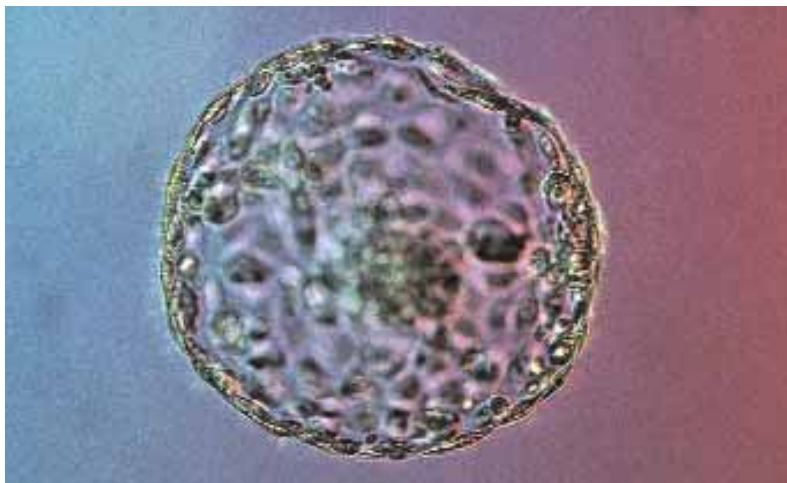
between countries, attributable to their different histories. The strong German and British presence at the workshop facilitated a comparative approach in our discussions. The problem of the human embryo's status underlies and connects debates in stem cell research, IVF and infertility treatment, and abortion reform. Our second aim was to appreciate this interconnection of issues, to do each more justice, and thus to raise our awareness of how cultural traditions act upon ethical reasoning.

Christine Hauskeller (University of Exeter), in a paper on the scientific and public debates on stem cell medicine in Germany and the UK, addressed many of the two countries' differences in attitude and legislation on embryo research. She outlined major breakthroughs and legislative decisions from the field in both countries, before exploring the apparent effects of their different ethical histories upon research trajectories and the embryo's moral status. UK research focuses on embryonic stem cells; funding for adult stem cell work (considered less innovative) is elusive. German funding concentrates on adult stem cell research; creation of embryonic cell lines is forbidden and use is limited to imports under stringent conditions. Hauskeller discussed how strategic use of particular scientific terms and language styles reflects underlying differences in attitude to stem cell medicine, such as the different connotations associated with 'cloning' and 'nuclear transplantation'. Asserting 'battlefields' of strategic language to be unhelpful to finding agreement in ethics, she called for a rational conception of dignity, detached from material substance. In our discussion, we noted that language changes during a debate and shapes it as it proceeds. This affects public understanding of science; the language in which a debate is couched greatly influences its interpretation. We agreed that no scientific language can be 'neutral', as no term is ahistorical, and that strategic language is unavoidable for both sides of a debate.

Problems still abound with informed consent to embryo donation in the context of IVF.

Nick Hopwood's (University of Cambridge) presentation, "‘Ourselves Unborn’? Human embryology before IVF", was an illustrated historical account of the field's development from 'marginal' topic in biology and medicine to major field in the life sciences subject to intense debate. He described the shift away from a concept of the embryo as proof for the existence of 'ideal types', to its gradual claiming by darwinists as a proof of common ancestry. Hopwood began with developmental series created at the turn of the 19th century, arguing that despite our familiarity with such textbook images, we should question their 'obviousness'. Closely examining their production

Above:
Representation
of an embryo from
*Anatomie
Menschlicher
Embryonen* (1885)
by Wilhelm His.
By permission of the
Special Collections
Librarian, Robinson Library,
University of Newcastle
upon Tyne.



reveals developmental schemes as embryologists' creations; 'development' was produced as a subject for scientific study, reconstructed on a magnified scale with drawings and wax models. Hopwood displayed pictures of Ziegler's wax models, explaining their importance as visual aids to the institutionalisation of a vertebrate developmental scheme. We discussed the disenfranchisement of women from whom embryonic tissue, before the advent of modern imaging techniques, was taken, linking this to ethical issues associated with the abortion debate and definitions of 'normal' development. We also considered the extent of women's apparently considerable interest in representations of the developmental processes. This led to interesting comparisons with certain practices today, including the blurring of cutting-edge embryonic images that are considered too shocking or politically charged, with respect to the abortion debate, for public viewing. Thus, pictures in science, as well as words, are usually heavily politicised.

Infertility was so stigmatised that it rarely even appeared in personal diary entries.

Christina Benninghaus (Bielefeld University) showed in her paper, 'Displaying Expertise: Advice literature for infertile couples from the 19th and 20th century', that infertility is not only a recent problem. Focusing specifically on five German advice books, she argued the literature took two broad approaches, the first being the believed consequences of childlessness. Benninghaus discussed gendered meanings of infertility, describing 19th-century portrayals of fatherhood as an 'essential' achievement for men, though they were believed able to compensate in other areas of their life. Female experiences of infertility were presented more emotionally, in terms of 'hysteria', devastation and non-fulfilment. Infertility was so stigmatised that it rarely even appeared in personal diary entries. The second focus concerned definitions, possible treatments and remedies, which varied among the books. Nineteenth-century advice appears more practical: many solutions pertain to the quality of sexual

experiences for both partners, making the books interesting also as rare historical repositories of sexual advice. Early 20th-century literature centred more on preparing couples for medical consultations or surgical procedures, rather than practical suggestions not requiring a doctor, supporting the idea of a shift towards the belief that these were laypeople's practices, and towards a more clinical attitude. We linked this biologisation of kinship to an increasing preoccupation with science as a source of 'answers', and addressed the changing importance placed upon family. We also discussed differences between male and female discourses of infertility, and examined passivity and activity concepts relating to eggs and sperm.

The presentation of Gayle Davis (University of Glasgow), on abortion law reform and the Scottish medical community between 1960 and 1980, contrasted with the preceding paper's emphasis on the desire for children. After outlining the Scottish common law system, she described Sir Dougal Baird's influence upon David Steel, the MP responsible for the private member's bill leading to the 1967 Abortion Act. Baird, a prominent Aberdeen gynaecologist, was unusual for capitalising on ambiguities in Scottish abortion law, and for publicly supporting 'therapeutic' abortion according to social criteria relating to the wellbeing of the mother. His stance starkly contrasted with that of Ian Donald (another prominent Scottish gynaecologist, who pioneered ultrasound) in Glasgow, where Scotland's abortion rate was lowest. Davis argued that vocal political support from Baird and associates, driven by increasing desires for professional autonomy and the eradication of 'back-street' abortions, influenced the State's move towards legalisation. We discussed the impact of publicity for Baird's vision, and his opposition's persuasive use of ultrasound images for discouraging abortion, and their wider political uses, alongside their primary function as an informative health tool.

In his concluding remarks, Lutz Sauerteig (Durham Centre for the History of Medicine and Disease) stressed that debates on reproduction and the human embryo are culturally as well as historically contingent. The language employed in debates on stem cells, for instance, illustrates the fact that scientific language uses metaphors intentionally as well as unintentionally, hence meanings are transported. Accusing science of a strategic language use – an accusation often made in debates on reproduction – is in itself a strategic argument, since there is no way that language can be objective. Visual representations, images of embryos for example, also carry meanings and have a political function, which contributes to alterations in the experience of pregnancy.

The 'History and Ethics of Human Reproduction and Embryo Research' event was sponsored through the Centre's recent Wellcome Trust Enhancement Award.

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Above:

Day six human *in vitro* blastocyst that has hatched from the zona pellucida.
Yorgos Nikas

Long-term changes in health and disease

BERNARD HARRIS

The last decade has seen a resurgence of interest in the history of health and disease and in the use of historical datasets by both medical and epidemiological researchers.

On 6 May 2005, the Economic and Social Research Council's National Centre for Research Methods hosted a workshop on the development of new approaches to the study of long-term changes in health and disease, which was designed to facilitate further exchanges between representatives of these disciplines. The workshop was organised by Andrew Hinde and Bernard Harris, and took place at the Southampton Statistical Sciences Research Institute (S3RI).

Anne Hardy (Wellcome Trust Centre for the History of Medicine at UCL) identified a large number of sources that could be used to shed new light on the history of health and disease in Britain since the early 1800s. These sources included: official statistical series (such as the *Annual* and *Decennial Reports* of the Registrars-General); official reports and commentaries (such as the *Annual Reports* of the Chief Medical Officers of the Board of Education and the Ministry of Health); medical periodicals; contemporary monographs, textbooks and non-governmental publications; and non-medical newspapers. However, Hardy also warned against the tendency to remove these sources from the contexts that generated them and to use their statistical contents uncritically, and drew on her own work, as well as that of others, to show how variations and changes in levels of disease can often owe at least as much to diagnostic changes as they do to 'real' changes in health experience.

One of the main characteristics of traditional approaches to demographic history has been an emphasis on aggregate experience and the use of mortality as an inverse indicator of health, and both of these features were challenged in the following two papers. Alice Reid (Cambridge Group for the History of Population and Social Structure) used survival models and hazards analysis to explore the impact of a range of factors on the health and survival prospects of the infants and young children whose progress was recorded by Derbyshire health visitors between 1917 and 1922. Andrew Hinde (University of Southampton) drew on work that is currently being undertaken with Martin Gorsky (London School of Hygiene and Tropical Medicine) and Bernard Harris (University of Southampton) to examine the health and morbidity of individual members of the Hampshire Friendly Society between c.1870 and 1950, with particular reference to the relationship between sickness experience and life expectancy beyond the age of 50.

During the last two decades, a great deal of epidemiological research has focused on the early-life origins of adult

disease and the development of a life-course approach to the study of older-age mortality. Much of this work was inspired by the work of David Barker and his colleagues at the Medical Research Council's Environmental Epidemiology Unit at the University of Southampton, and Cyrus Cooper, Mark Hanson and Barry Margetts (University of Southampton) used the opportunity provided by their paper to show how this work has moved on since the publication of Barker and Osmond's initial paper in the *Lancet* in 1986. The development of a life-course perspective on human epidemiology was also central to Fanny Janssen's (University of Groningen) presentation on cohort patterns in mortality trends among elderly people in seven European countries between 1950 and 1999. This was based on a co-authored paper with Anton Kunst (Erasmus University, Rotterdam) and demonstrated that, even at the end of the 20th century, "both living conditions in childhood and smoking in adulthood seem to have left an imprint on the mortality experience of birth cohorts up to high ages".

Overall, the workshop provided a further indication of the strong links between health history and epidemiology. The revival of a life-course approach to epidemiology has made epidemiologists more aware of the contribution that historical records can make to the understanding of contemporary patterns of health and disease, but it has also encouraged historians to give more thought to the question of how they can incorporate life-course approaches into their own efforts to understand the health and mortality of past generations.

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Right: Ministry of Health anti-infection poster. Colour lithograph by H M Bateman, early 1940s.

History in public health workshops at the LSHTM

ORNELLA MOSCUCCI

A new series of workshops was launched by the Centre for History in Public Health at the London School of Hygiene and Tropical Medicine (LSHTM) earlier this year.

The workshops, which are organised under the terms of the Wellcome Trust Enhancement Award recently won by the Centre, aim to bring historians and public health specialists together to discuss topics of common interest.

Screening seemed an ineffective and expensive way of dealing with TB, and it raised a number of moral issues.

The theme chosen for the first workshop, 'TB, Migration and Health Screening: What can we learn from history?', reflects the growing media and public health concern about tuberculosis. Over the past ten years the question of TB control has climbed up the political agenda, culminating in October 2004 with the launch of the Chief Medical Officer's 'TB Action Plan'. Speakers Dr Richard Coker, Senior Lecturer at the LSHTM, and public health historians Alison Bashford of Sydney University and John Welshman of the University of Lancaster, sought to put this concern in perspective by providing material from their current research. Bashford and Welshman have received funding from the British Academy and the Australian Academies to undertake a collaborative project on the history of TB screening in Australia and the UK. Coker, who is the author of a monograph on the causes and responses to the late-1980s TB epidemic in New York, is currently on secondment to the UK Department of Health, with responsibility for TB screening. The session was chaired by Ros Stanwell-Smith, a public health consultant with experience in port health.

Coker set the scene with an analysis of the background to the current public health concern. He explained that most of the discussion had been driven by anxiety over imported infection, and that asylum seekers and refugees had been its main focus. Temporary visitors had been excluded from the debate, in spite of being potential carriers. Beyond the migration issue, concerns about poverty, overcrowding and the cost of treating sufferers had also been a feature of the debate. Over the past two years, the political discourse has principally focused on the screening of new entrants. Coker's main question was whether the system was fulfilling its purpose of identifying sufferers in order to benefit the health of

individuals and to prevent the public health consequences of undetected infection.

The British Thoracic Society guidelines suggest that people coming from countries with an incidence of more than 40 cases of TB per 100 000 population should be screened, but many entrants into the UK bypass these guidelines. An investigation into the follow-up of suspected cases carried out by Coker and colleagues has revealed that lack of resources is hampering proper follow-up of suspected cases. Other research has shown that there is no correlation between the number of cases that are picked up on entry and the incidence of TB in the country of origin. Even with a perfectly working system, the number of cases that would be averted over a ten-year period is very small, partly because the chest X-ray, the method most commonly used in screening for TB in the UK, is not a perfect tool for the job. Coker's conclusion was that screening seemed an ineffective and expensive way of dealing with TB, and that in addition it raised a number of moral issues.

Bashford's talk, 'TB Screening and the Island Continent: Australia, 1901–2000', highlighted the geopolitical situation of Australia and the different history of TB management that this has generated. This former British colony is located inside the non-white Asian Pacific region, so there is a long history of understanding Australia as the 'white continent'. What has gone along with this perception is the notion that Australia is an 'island continent', well away from the world centres of disease. During the 20th century, public health practitioners were acutely aware of Australia's relatively disease-free status, and they assisted in maintaining this status through the implementation of rigid quarantine policies. This history has a direct bearing on the control policies that have been adopted for TB, a disease that was endemic in Australia throughout the century.

Under Australian immigration law, TB is the only disease that precludes the granting of a visa. In contrast to the UK, screening is carried out 'offshore' before entry, in the country where the visa application is made. The practice of offshore examining was initially directed at British migrants, as they formed the bulk of migration to Australia for much of the 20th century. Following the large-scale campaign against TB launched in 1948,



Above:
National
Association for
the Prevention of
Tuberculosis
poster introducing
the X-ray.
By T R Williams,
c. 1950s.

The Cape Doctor in the Nineteenth Century



STEPHEN CASPER

This edited volume is a remarkable social history of South Africa and its medicine. Readers interested in medical professionalisation in colonial contexts, and the negotiations of medical boundaries between indigenous medical practices, European folk practices, and European medicine, will not be disappointed.

Broadly, the achievement of this book is its use of primary records of 19th-century 'professional medicine' (in fact Western medicine) to uncover some of the lost history of indigenous medical practices, such as those of the Khoi/Khoisan and Xhosa populations. That it does so while also uncovering early European alternative medical and folk practices in both urban and frontier contexts, works to locate South African 'professional medicine' in a strange milieu of competitive forces. Here the historical doctrine of a homogeneous set of Western medical values shining the light of reason onto uncivilised superstitions meets its strongest contradiction. What emerges is that some of European medicine's greatest antagonisms in the colonies may have come specifically from conflicting European/colonial folk remedies, which had developed when the population of European medical practitioners was especially low.

One way 'professional medicine' competed with these alternative practices was through establishing close connections with the colonial Government, especially autocratic governors. In this way, European-trained physicians were able to legally codify the requirements for participation in medical practice, which gave them a greater political legitimacy than alternative practitioners. Where that legitimacy failed to achieve the desired results, the European-trained physicians cultivated gentlemanly and paternalistic personae, providing them with greater cultural capital than many of their rivals could claim. With establishment of licensing rules, and then medical education requirements, 'professional medicine' became a near-euphemism for British medicine. As the relationship between professional medics and the colonial Government deepened, additional salaried employment opportunities were created for physicians in hospitals and asylums. Yet this relationship was fraught with a deeper social agenda. It ultimately advocated for the colonial project and the belief in the supremacy of Western civilisation. In consequence, for example, the Cape doctors came to pathologise race, gender, and class, lending medico-scientific justifications to the segregation and racialisation that eventually so divided South African society.

Perhaps one flaw of the book emerges here. The editors' desire to position themselves outside the whiggish tradition is laudable, but their revisionism seems sometimes too mollified. A discussion, for example, of medicine in the Eastern Cape provides an excellent

account of Xhosa medical practices. It shows in what ways missionary medicine and scientific medicine were promoted to encourage the development of 'professional medicine', which placed "a strongly British stamp on the practice of Eastern Cape medicine" and subsequently replaced or denigrated Xhosa traditional culture. Although the chapter is a discussion of frontier medicine, nowhere is there discussion of what frontier territories implied to the indigenous populations. While the case for the conclusion that Eastern Cape doctors acted as "agents of empire" is made well, the broader implications of this agency in the politics of colonial expansionism seems to have been ignored. If doctors were really such agents, then their role in facilitating colonial annexation of land and resources should at least have received lip service.

Another (slight) criticism is that occasionally the book lapses incautiously near a deterministic model of professionalisation. Studies of this are tricky things. Harriet Deacon's chapter on 'Medical gentlemen and the process of professionalisation before 1860' has a section titled 'The slowing pace of professionalisation', which seems almost to suggest a predetermination of what 'professional medicine' ought to work towards becoming. As it is one of the major themes of the entire text, the number of works cited pertaining to professionalisation seems slightly thin. Nevertheless, the analysis of it – and of specialisation – in South African medicine is generally quite sophisticated.

Doubtless the book will have its attractors and detractors, but it is unquestionably a book for reading and owning. If it has relinquished some of its political positions for more pragmatic language, it nevertheless manages to show that the professionalisation of medicine is rarely a feature of progress in treatment and cure *per se*, and is usually the result of complex interactions between social, economic and political forces. That Western medicine was one tool among many used by colonial empires to subdue and oppress the populations of colonised lands may perhaps sound like the beating of a familiar drum. On the other hand, while the era of the social history of medicine in the West may be over for some historians, it is only beginning for others interested in parts of the world that have lived or are living in the oppressive shadow of the West.

The Cape Doctor in the Nineteenth Century is an enjoyable read, evenly written and edited. The narrative flows smoothly, and the smaller arguments and case studies are concise, detailed, and always linked to the overall themes of the book.

Deacon H, Phillips H, van Heynigen E (eds). *The Cape Doctor in the Nineteenth Century*. Amsterdam and New York: Rodopi Press; 2004.

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The institutionalisation of medical history in Germany



CLAUDIA STEIN

In 1901 the *Deutsche Gesellschaft für Geschichte der Medizin und der Naturwissenschaften* (DGGMN) was founded in Hamburg, as the first worldwide society devoted to the history of science and medicine. According to the editors of this collection of essays published for the Society's centenary, its foundation marked the beginning of the academic institutionalisation of medical history in Germany.

The most visible achievement of the early lobbying activities of the DGGMN was the establishment of a chair for medical history at Leipzig, to which Karl Sudhoff was appointed in 1905, and the founding there in 1906 of the Institute of Medical History. A reminder of Sudhoff's domineering and dominating role is provided in essays by Ortrun Riha (the current head of the Institute), Andreas Frewer and Karl-Heinz Leven.

Four other essays explore 19th-century trends in the history of medicine in Germany. Werner Kümmel, in an overview of the various legitimating strategies for the field, reminds us that the early work was written by and for physicians. In fact, according to Marcel Bickel's heavily quantitative investigation of the biographies of European and American medical historians, there was only one who also held a degree in history (Paul Diepgen, the occupant of the chair in Berlin). And for the most part, the physician-historians wrote with reference to what they knew best, contemporary medical theories and practices.

The Prussian physician and professor of botany Kurt Sprengel is conventionally presented as the founding 'father' of medical history. His history of medicine promoted the notion of change and evolutionary progress and was notably pragmatic. Hans-Uwe Lammell argues, however, that this is a whiggish construction, and insists on the need to contextualise Sprengel in his own social and intellectual terms – for example, with regard to the reconstruction of Prussian universities according to Humboldtian educational ideals.

An excellent example of context-conscious medical history is Christoph Gradmann's contribution on the "cultural history of science" of two representatives of mid-19th-century scientific positivism, Ernst Hallier and Emil du Bois-Reymond. According to Gradmann, their ideas have to be understood not only through the 19th-century enthusiasm for scientific medicine and lab research, but also within the specific social-cultural reality of the newly founded German nation and the ongoing search for new identities and ideals. But the scientisation of medicine was not universally welcomed, as Peter Schneck demonstrates in reproducing Heinrich

Haeser's unpublished 1859 memorandum to the Prussian *Kultursministerium*. In this interesting document, Haeser (then professor of medicine at Greifswald) warned against the widening gap between the sciences and humanities, and the increasing materialism of medical education, which he hoped to remedy through the teaching of medical history.

But it was not until the 20th century that medical history began to assume institutional power in Germany, with Sudhoff providing an important catalyst for the national and international development of the field. However, there is reason to question this narrative. Within the majority of the essays in this volume there is abundant material to make one wonder about the nature and extent of the field's institutional 'success'.

Furthermore, there was scant support for the discipline from the medical academic establishment or from political figures. Sudhoff's own chair and institute were funded privately by a sentimental widow. When he applied to Leipzig University for a full professorship in 1918, he was rejected by the medical faculty. Max Neuburger sympathised with him, deploring the complete lack of interest in medical history that they both faced, though he himself was soon to be the victim of what can be regarded as yet another reason for the lack of success of medical history in Germany, namely the overbearing presence and intellectual authoritarianism of Sudhoff himself. Indeed, his Rankeian philological interests were not really overcome until the 1970s.

Despite such evidence, however, most essays in this volume subscribe to a version of the success narrative. They have to, given the current crisis of the discipline in Germany. However, many of the authors seem unaware that they too engage in some of the same legitimating strategies as their predecessors. Alfons Labisch, for example, in his unnecessarily complicated chapter on the history 'of' and 'in' medicine, reproduces an old dichotomy between clinician-historians and academic historians of medicine – which is intellectually anachronistic to all except those (such as Labisch) stuck in German medical faculties and in constant need to defend the discipline against predators (from medical ethics, among others). In this backward-looking respect, Labisch's chapter is typical of the collection. Unlike the recent volume by J H Warner and F Huisman (*Locating Medical History*), this one is stuck in its Germanic past.

Frewer A, Roelcke V (eds). *Die Institutionalisierung der Medizinhistoriographie: Entwicklungslinien vom 19. ins 20. Jahrhundert*. Stuttgart: Steiner Verlag; 2001.

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Dental Practice in Europe at the End of the 18th Century



NANDINI BHATTACHARYA

This collection of articles examines, through regional studies, the specialisation of dental practices in 18th-century Europe (the editor argues that the term ‘dentistry’ itself could only be applied appropriately from the 19th century).

Though the specific contexts are diverse and narrated separately, there are some commonalities. For instance, this was when cosmetic luxuries such as clean, whitened teeth came to be more widely attended to. Most of the authors, particularly those covering western Europe, also mention the sudden rise in sugar consumption during this period, which boosted demand for dental services. The other common theme is the diversity of the dental practitioners, identified through study of advertisements and commercial directories.

Pierre Baron discusses French dental practice 1785–1800, and its regulation pre- and post-Revolution. There had been a wide range of dental care providers, differing in social and economic backgrounds and in skills. There was the ‘expert’, who had to proffer a baptismal certificate, a personal testimonial, and an apprenticeship agreement with a master surgeon or existing expert, before facing examination by the local community of surgeons. There were also itinerants, who often practised on the edges of the town (and the rules), whose knowledge was more empiric. The laws of 1791 replaced titles such as ‘doctor of medicine’ or ‘surgeon’ with ‘officer of health’, and abolished the guilds – apparently “causing a resurgence in empiricism”. Baron explores the great diversity of dental practitioners in Lyons, Rennes, Sens, Toulouse, Aix-en-Provence and Nancy. In the provinces, the Revolution did not change things drastically – the few experts still practised and transmitted their knowledge. In Paris, the kinds of dental service on offer ranged “from easing the pain of teething with magnetic bars...to toothache elixirs”. Baron examines the social background of Parisian practitioners through study of contemporary almanacs, noting that the numbers of experts listed remained the same between 1785 and 1792, but that there was a large rise at the end of the 1790s.

Turning to Britain, Anne Hargreaves sees a resurgence of empiricism from the late 17th century, and contends that the growing commercialisation of society resulted in a dynamic medical marketplace, where “orthodox medicine ran in tandem with empirical and ‘fringe’ activities”. This was reflected in dental practice; as well as several specialists in London and Edinburgh, there were various other providers of dental care: corn cutters, tooth extractors, watchmakers, hairdressers and goldsmiths. The only real skill required was manual dexterity. From advertisements, trade directories and

newspapers, Hargreaves judges that there was a move towards specialisation: about a fifth of identified individuals providing dental care had a confirmed or implied surgical background.

Frank Huisman argues that in the highly urbanised Dutch Republic, healthcare took an organised, corporate form. In this period, university-trained physicians had gradually come to acquire greater legitimacy, and medical practice was being increasingly regularised. Through a study of medical practices in the city of Groningen, where after 1728 it was impossible for itinerants to practise except under the supervision of town physicians, Huisman argues that dentistry became a specialised practice because dentists alone were exempted from this rule. This led to many providers of various kinds of healthcare to increasingly specialise (or claim to) in dental care.

In her work on Hungary, Judit Forrai explains that commercial development at the eastern fringe of Europe took place much later than it did in western Europe. Therefore consumers for a dental market were limited. There was a great deal of self-medication, and use of folk remedies and tooth powders. Itinerants such as ‘*olejkar*’, Slovak traders who sold pine-oil on “their travels through Russia, Siberia and north Hungary with their ‘magic potions’”, were one type of provider. Barber-surgeons’ guilds were established in the early 18th century in Buda, Debrecen, Kassa and elsewhere, and their members offered minor oral surgery and the relief of dental pain. There were specialist dentists in the capital, Pest, but the wealthy generally looked to Vienna for specialist dental care, as with most other luxuries.

Thomas Nickol and Curt Gerhard Lorber contend that in the Holy Roman Empire in this period, society was largely agricultural, though the rise of a modern bourgeoisie was evident. There was no official promotion of dentistry, but the “sheer ambiguity or vagueness of the regulations” allowed itinerants to travel between courts and fairs, from one town to the next, and eventually to create a demand for dental care.

The wide scope of the study, as well as the range of primary sources, make the book a rich collection. The attempt to see the emergence of the dental specialist in the 18th century is a teleological one; however, the heterogeneity of the practitioners of dental care and their services are situated in their particular contexts.

Hallam C (ed.). *Dental Practice in Europe at the End of the 18th Century*. Wellcome Series in the History of Medicine. Amsterdam/New York: Rodopi Press; 2003.

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Nature in the Global South: Environmental projects in South and South East Asia



KAVITA SIVARAMAKRISHNAN

These essays, originally presented at a 1995 conference in Hawaii, trace the relationships between people and nature as they are continuously made and remade by the state, elites, and people's representatives, with a focus on the process by which interests and ideologies are deployed as tools of control and recast for empowering ends in environmental projects.

The first section follows the process of local knowledge creation and the transformation of social and natural landscapes in South and South-east Asia. Essays by Warwick Anderson and Charles Zerner examine respectively the changing constructions of tropical knowledge in the material and discursive constructions of the tropics as a distinctive region or 'climatic zone', and the transformations in ideas regarding market, nature and culture in Indonesia's Aru Islands. Anderson argues that in the early 20th century the understanding of 'nature' in the tropics increasingly became 'differentiated' and disarmed, setting the agenda for local races to be 'reformed' and understood through a discourse on 'social citizenship'. A piece by Roger Jeffrey and Nandini Sundar explores the multiple understandings of non-timber forest products in forest policy as reflected in joint/community forest management. Its thorough exploration of local voices addresses the call in a later essay by Peter Brosius to acknowledge and analyse the "reality of the locality" and local perspectives in environmental campaigns.

The second set of essays covers the making of rural landscapes through conceptual frameworks and administrative practices. Michael Dove's and Anna Lowenhaupt Tsing's articles examine with a broad sweep the intellectual and political relations between local and global discourses on environmentalism. They deploy evidence from diverse sources such as Java, The Philippines and the Malay Peninsula. Tsing examines seemingly divergent environmental agendas, namely rural allegories and politically constructed narratives about 'peasants' and 'tribes'. Colonial interpretations of peasant landscapes and rural communities were hybrid projects involving South-east Asian elites and community members that attempted to 'remake' peasant politics and culture as 'models' in administratively important segments of the Asian countryside. Later, colonial 'core' peasantries were again central to national imaginings of the future, as a part of the wider national development – 'tribals' had been defined earlier in terms of their difference from non-tribes, but were then projected in a recast allegory of nationalism and social justice in an agenda shaped by scholars, activists and international organisations. It was the absence of such allegories, Tsing argues, that left the 'tribal' Penan of Malaysia without a discourse of

national heritage and traditional morality to tap into. The last essay in this section is Ann Grodzins Gold's, rich in ethnographic insights as it reconstructs the shaping of people's stories on lives and landscapes in Rajasthan.

The next section addresses state territoriality and its contestation. Paul Greenough examines environmental projects in 1970s India to eradicate smallpox and preserve wild tigers. It traces the role of state agency and the remaking of green agendas and public health programmes owing to popular hostility. Nancy Lee Peluso's work focuses on territorial strategies of resource control in environmental discourses and politics in Indonesia. K Sivaramakrishnan's essay employs the construction of colonial knowledge with regard to forest regeneration through policies, reforms and working plans in the latter half of the 19th century. He traces the introduction of formal forest management and the making and unmaking of the foundations of colonial scientific forestry with regard to forest management and its elaboration of scientific forestry in Bengal. Susan Darlington's ethnographic article on Thai villagers and monks working on building a community forest brings out the importance of understanding local conceptions of community in all environmental projects; she notes the constant engagements between environmental development discourses employing local, animist and national ideas, and their reformulation of and responses to debates on the locus of governance.

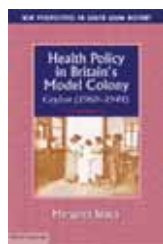
The final section covers the contestation between allies in environmental mobilisation. Amita Baviskar traces relations between NGO activists and a differentiated tribal middle class, questioning the principles of ecological conservation. Peter Brosius's work charts the course of the Sarawak campaign in Borneo to protect the rainforests from logging companies. He analyses constructions of the Penan and their relationship with the rainforest, nation and planet in such campaigns.

For all of their merits, most of these essays have already been published elsewhere, so careful followers of the literature will be familiar with them. Having said that, the collection still stops short of being dated, as it allows an engagement and interplay between essays that still make a case for them to be read together. It is this crosstalk that will ensure an audience for this work among students interested in the cultural politics of environmental projects and also an academic audience.

Greenough P, Tsing AL (eds). *Nature in the Global South: Environmental projects in South and South East Asia*. New Perspectives in South Asian History 7. New Delhi: Orient Longman; 2004.

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Health Policy in Britain's Model Colony: Ceylon (1900–1948)



MAARTEN BODE

Margaret Jones, following social historians and social anthropologists who draw their inspiration from British structural-functionalism, looks at the internal set-up and effects of colonial medicine in Britain's colony Ceylon, during 1900–48.

She has a keen eye for the intertwining of state health notions and practices, and focuses on Ceylon for its relative affluence, its well-educated local elite (which already ten years before independence had a lot to say in colonial administration), and the fact that, at independence, descriptions such as 'embryo-welfare state' were used of the new nation. This period was the beginning of the 'era of dominance' for Western medicine, so locality and time frame offer the parameters for an analysis of the concept of colonial medicine and its health impact.

For Jones, Western medicine in the colonial context is both an adjunct of colonialism and a separate phenomenon by itself. She first argues that the fact that colonial medicine was part of the repression, exploitation and striving for cultural hegemony of the West does not entail that it had no positive effects on health in the colonies. She contends that colonial medicine was shaped by local circumstances, and so we must situate it accordingly. She therefore compares the impact of colonial medicine in Sri Lanka with that in other former British colonies such as Hong Kong, India, Malaya and Ghana. For empirical data, the study almost totally depends upon colonial sources, notably documents from the official archives (and also articles from English-language newspapers). The work has a strong government policy bias, and local voices, especially those expressed in the vernacular, are badly missing.

Health policy transfer from Britain to Ceylon and the structure and nature of colonial government health services are then discussed. These legitimated colonial presence and facilitated colonial rule by protecting the health of administrative personnel and, to a lesser extent, of those who were part of the colonial set-up such as plantation workers. Benefits for the general population were now much smaller and even may have been negative in the sense that indigenous knowledge and institutions were undermined to establish the hegemony of Western medicine and British culture. At the same time colonial medicine had to improve general health in the colonies through preventative means such as sanitation, housing, vaccination and mother/child care, as well as curative set-ups in the form of hospitals and local health centres. Jones argues that ideas current in Britain about the prevention and cure of disease were exported to Ceylon. This is no

surprise: health professionals in service of the Ceylonese Government were trained in Britain and the USA, or in local medical colleges that were copies of those in the centres of power. Effective sewerage, good housing, clean drinking water, proper hygiene and food were considered crucial to public health. However, because of underinvestment and general poverty, as well as the technical bias of tropical medicine, the emphasis in Ceylon was on individual hygiene and the creation of a curative infrastructure in the form of dispensaries, clinics and hospitals. At the time of independence, 'diseases of poverty' such as dysentery, tuberculosis and hookworm disease were still the most important killers.

Jones looks at the relationship between Western and indigenous medicine, speaking of an "uneasy medical pluralism" but seeing Sri Lanka's pluralistic healthcare system as a positive colonial legacy. However, this overlooks the anthropological literature showing that the identity of government-sanctioned Ayurvedic practices is doubtful and often boils down to a 'poor man's' form of modern medicine. Most 'Ayurvedic' physicians are practising a form of syncretic popular culture medicine marked by biomedical nosology and drugs. To what extent this is a legacy of colonial times, in which Western medicine came to the foreground at the expense of folk practices embedded in social relations, is not discussed.

In later chapters, Jones discusses the effects of colonial medicine on the prevention of hookworm disease, malaria control, and health services for women and children. Because of Ceylon's poor sanitary infrastructure, the record on hookworm disease is a "limited achievement". With malaria, the limits of the technical approach of tropical medicine become obvious: more than 100 years after Ronald Ross isolated the vector, this dreadful disease is still a major killer. Though the malaria epidemic of 1934–35 furthered the development of Ceylon's basic primary healthcare structure, it did not shift sufficient attention to prevention. Again, the focus was on curative measures. Jones's judgement on health services for women and children is that poverty and poor hygiene limited the positive effects of colonial medicine – but we are told nothing about the consequences of colonial policy for local health notions and practices in this important field. The marginalisation of local birth attendants and cultural health practices does not get the attention it deserves. That the downplaying of local expertise might have led to loss of local knowledge and self-reliance in health matters is easily ignored when one depends upon colonial reports.

The theoretical conclusion is that no generalisations can be made about the structure and effects of colonial medicine from the Ceylon case and, at the same time, that nothing in general can be said about Western medicine in the colonies without taking the Ceylon

case into account. A truism indeed. On the practical level, Jones determines that the stinginess of the colonial Government and local elites has led to lack of investment in sanitary measures and implementation of knowledge in the field of social medicine, and that at the end of the colonial period the ‘diseases of poverty’, such as lethal diarrhoea, malaria and tuberculosis, were still the main health hazards.

Though Jones’s study has advanced my knowledge of colonial health policies, especially in the sphere of hygiene and health education, her suggestion that colonial medicine is partly responsible for the relatively good Sri Lankan figures on mortality and disease prevalence, for a highly developed form of indigenous medicine, and for ‘total access’ to healthcare in the form of clinics and hospitals, is feeble. It could equally be argued that colonial policies have turned people from producers into consumers of healthcare by undermining local practices and institutions. Also, her argument that

the poor comparison of recent Indian health statistics with those of Sri Lanka demonstrates the non-monolithic character of colonial medicine does not make sense to me. These figures differ enormously within India, as comparison of these data from Bihar and Kerala makes clear. Can this not be taken to show that health policies in princely states were better for the public than those in areas under direct British rule? Would this not suggest that colonial health policies did more bad than good? Jones does not answer this question. Too strong a focus on government policy holds the danger of confusing plans and objectives with results and consequences. Judging the colonial legacy requires field research and screening materials in local languages.

Jones M. *Health Policy in Britain’s Model Colony: Ceylon (1900–1948)*. New Delhi: Orient Longman; 2004.

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The Home Office and the Dangerous Trades: Regulating occupational disease in Victorian and Edwardian Britain



ANDREW HULL

Peter Bartrip’s latest work is a very welcome contribution to our understanding of the historical process of official regulation of the dangerous trades in the UK, c.1833–c.1914. This is a subject that, outside of asbestos, is served by only a scant secondary literature.

Bartrip started this work nearly 20 years ago and his concern is still firmly rooted in testing Oliver MacDonagh’s thesis of revolution in Victorian government, in which an ‘intolerable’ social crisis generates an administrative response, usually the appointment of inspectors, who then successfully use their powers both to apply the existing law and to expand their role. Bartrip explores this through detailed case studies of the first diseases to be officially recognised as occupational hazards in manufacturing (lead, phosphorus and arsenic poisoning, and anthrax). These examples reveal that the construction of and response to a ‘crisis’ were not inevitable as MacDonagh seemed to imply, but were shaped by a range of interacting factors. These included underlying ones to do with the historical development of the Home Office’s culture and influence, and the comparative social power of different industrial groups; there was also a broad range of proximate factors, such as the contribution of scientific, medical and technical opinion, the ‘oxygen of publicity’ provided by a new populist press, and an increasingly vocal consumer lobby willing to boycott products for moral reasons.

Bartrip focuses on the Home Office’s Factory Inspectorate, pointing out that it would never have been created if not for an evolving recognition that “there was an element of irreconcilability between public policy and entrepreneurial objectives”. But the size of that gap, and on what basis these agendas parted company, were constantly renegotiated among a range of relevant interests. The Inspectorate was foisted on a reluctant Home Office, and was never properly staffed or incorporated within the machine. Departments of State were almost always reactive not proactive in the Victorian period, as they had few staff, could process little information, were financially constrained by the Treasury and were typically ideologically averse to industrial reform. The Factory Acts from 1833 recognised the role of the State in regulating the environmental conditions of industrial employment, although they also adhered to *laissez-faire* dogma in paternalistically protecting women and children while viewing men as free agents able to strike a fair bargain with their labour in a competitive market. Intervention on specific health hazards thus needed a “strong external stimulus”. In the case of white lead poisoning, backbench working-class Liberal MPs were influential in getting workers’ health on the national agenda, leading to the first legislation against a specific industrial disease, the Factory and Workshops Act 1833. However, Bartrip explains that the dangers of lead poisoning were treated very differently, depending on the leverage of different lead-based industries. The large pottery manufacturing firms that used lead glazes were much more effectively able to resist and dilute regulation than the small white lead trade.

Bartrip concludes that workers were sometimes victims of “ignorance, carelessness or exploitation” by firms, but stresses that more often there was a view that more health meant fewer jobs, since stricter regulation led to increased costs and thus encouraged the flight of industries to less-regulated countries.

Initially the Inspectorate had had a radical approach to reform, but consensual gradualism had evolved by mid-century. However, from the 1890s, reformist new Home Office staff – and the appointment of B A Whitelegge as Chief Inspector in 1896 – led to more proactive, confrontational relationships with industry. The focus was now on particular ‘gross’ diseases, which doctors and campaigners (increasingly women, such as the Ladies’ Sanitary Association) had highlighted owing to the horrible symptoms, speed of development, high fatality rates or emotional impact. The State thus worked around the changing public perception of health crises, which was politically expedient: high-profile action had become an electoral advantage, and was often easier to negotiate with industry than tackling other diseases that took longer to emerge and potentially involved substantially more workers, but whose aetiology was still opaque. Legislative action required not just proof of specific harm, but also a technology to stop it without causing other harm, whether to health, employment or industry: disinfection of anthrax-infected wool became possible without damage to the valuable material only in 1914, and was incorporated into the Anthrax Prevention Act 1919. The Factory and Workshop Act 1891 set the template: targeted industries would be regulated by ‘special rules’ set by the Home Secretary. Employers could, and did, veto drafts of regulations, so the final wording was still a compromise, but regulation was now firmly on the public and political agenda.

Bartrip concludes that, save the lacuna of explaining the construction of an ‘intolerable’ crisis, his work has shown the value of MacDonagh’s model of administrative development: legislation as a dynamic process with a strong feedback loop from practice, which continuously extended the reach of regulation. He also stresses the importance of the social/political context of ‘national efficiency’ of the Edwardian years as fuelling regulation of the dangerous trades.

However, this underlines one weakness of his study. Although Bartrip does state at the outset that this is a circumscribed history of occupational health, medicine and regulation of dangerous trades, the lack of broader historical context can sometimes grate, and detract from the obvious force of the argument – for example, is it really possible to gauge the importance of the personal influence of new Home Office personnel, or the rise of the new ‘moral entrepreneurs’, or the interaction with national efficiency movements, when the changing contexts and interfaces of government, medicine and society are not satisfactorily explored? This aside, however, Bartrip has produced an eminently readable and useful work that will be an essential text for all teachers and students of the history of occupational health and medicine – a field interlocked with the wider interactions and co-productions of State, medicine and society in this period.

Bartrip P. *The Home Office and the Dangerous Trades: Regulating occupational disease in Victorian and Edwardian Britain*. Amsterdam: Rodopi Press; 2002.

Dr Andrew Hull is Tutor for the History of Medicine, Centre for Philosophy, Humanities and Law in Health Care, University of Wales, Swansea.

A personal tale of a physician’s journey to history’s gate

DAVID M ISRAEL

I am a paediatric gastroenterologist who recently had the opportunity of a period of study leave. Why should a physician choose to spend time studying the history of medicine?

Medical education and practice in North America include little exposure to history of medicine. Should this imply that history of medicine is not relevant to the practitioner? Is it a waste of time? I would like to describe the kinds of question that have led me to spend my time at the Wellcome Trust Centre for the History of Medicine at UCL, and describe some of my early impressions and thoughts.

The questions I had were raised from the reality of my daily practice as a sub-specialist consultant. Over several years of training and practice, I have accumulated more and more knowledge over an ever-narrowing field. This is the essence of specialisation. I often wondered about the value and ramifications of medical specialisation, and reading about it I found that the debate over its advantages and disadvantages has been an ongoing process for the last 200 years. The basic arguments put forward by the proponents and opponents of specialisation have remained essentially the same, but as the field has evolved, each side has been able to bring new evidence in support of its arguments.

The second half of the 20th century witnessed further sub-specialisation. This process is ongoing and new sub-specialities are still being formed. Significant

changes have been noticed in scientific knowledge, clinical practice and the administration of health. The definition of 'health' and societal expectations of medicine have also changed dramatically. In addition, medical research has been taken out of the universities and is now shared by private corporations focused on commercial interest rather than scientific knowledge.

It was Medicine with a capital M, a full, rich and promising multi-dimensional world with immense freedom to explore questions I had never thought were appropriate to ask or possible to answer.

I hypothesised that the events and changes that occurred in the second half of the 20th century have culminated in the following:

- Sub-specialisation of basic science research and clinical research and practice are moving along divergent paths.
- Division of basic science research along medical fields has served its purpose and is being replaced by consolidation into more modular and flexible thematic groupings.
- Sub-specialisation of clinical research has strong justification. Methodological considerations dictate a need for large pools of patients, who are usually obtained only by collaboration of many centres and investigators.
- Administration of medical care must follow the needs of patients and support the creation of new medical knowledge through large clinical trials.
- The concept of disease and the perception of the patient are dynamic processes and have changed over the last 50 years. To ensure that patients' interests remain the major focus of medicine, both the disease concept and the perception of the patient must constantly be evaluated.

I have found it difficult to formulate a plan to explore these issues. The mere possibility of setting out alone on this journey was alarming and I could not envision making meaningful progress by myself. With this rudimentary group of possible projects and a vague idea of where I might find some answers, I arrived at the Wellcome Trust Centre for the History of Medicine (then on Eversholt Street). Over the following months I met people who devoted their careers to the history of medicine. I further encountered many more through their writings in papers and books.

As my introduction to the field progressed, I learned to recognise different groups and sub-groups who produced ideas and knowledge in history of medicine. Some of course were physician-historians (the pioneers of the field) and others were professional historians. There were social historians and anthropologists, economists and epidemiologists. Each group had its special educational background. The kinds of question they would ask and the types of answer they were looking for varied along with the methodology they felt would best apply to their

field. With a growing degree of fascination, I learned how each approach was able to lay claim to an important truth. None was irrelevant or less relevant than any of the others, but it was sometime difficult to unify the many beautiful pieces of the puzzle into one large and universal truth. I have found myself in a world mirroring my own medical world, a world of ever more refined sub-specialities with their inherent unique conceptual structures, and facing the task of translating ideas and facts across these dispersed cultures.

I have realised that history is a dynamic field of knowledge. History itself changes from time to time and this may happen in at least four different ways. First of all, the discovery of new evidence may lead to a different interpretation of the story. Secondly, the field may assume a new role and responsibility, such as by changing from a simple log of dates and events to a more dynamic review of processes that took place, or by opening the historical story to social, economic or psychological factors. Thirdly, the change may be in the accepted methodology, such as by enquiry and understanding of permissible conditions that were necessary for the occurrence of an event. Lastly, a shift in our understanding of the subject matter itself as a result of new analysis of a period may force a re-evaluation of all previously accepted conclusions and illuminate historical knowledge in a new light, resulting in the rewriting of history along a new path. Such a shift may arise directly from the realm of historical research or may be a reflection or consequence of a new way of thinking in another science (a ripple effect).

Reading and discussing topics in history of medicine has reintroduced me to medicine. Not the medicine I have known from my daily encounters with patients and disease. Not the kind of medicine I was familiar with as an exciting science, nor the medicine I came to think of as a pillar of modern society. It was Medicine with a capital M, a full, rich and promising multi-dimensional world with immense freedom to explore questions I had never thought were appropriate to ask or possible to answer. Patients' diaries and interviews, books, paintings, poetry and plays became valuable sources for learning about medicine, health and how they relate to our society.

I regret the years I have practised medicine ignorant to these worlds swirling around me, touching on my life and the lives of my patients. It is likely a reflection of my personal ignorance and shortcomings but I have a strong feeling that my situation is not unique. It is neither possible nor necessary that all physicians double up as historians, but I hope that young physicians and those still in medical school are being exposed to the thoughts that history of medicine is capable of offering them. It will enrich their lives, and open up for them wide vistas of professional and personal options they should explore throughout their careers.

David M Israel is Clinical Professor and Head of the Division of Pediatric Gastroenterology, University of British Columbia and BC Children's Hospital, Vancouver, Canada (E disrael@cw.bc.ca).

Calendar of events

TO ADD AN EVENT TO THE CALENDAR PAGE, PLEASE SEND DETAILS TO THE EDITOR, sanjoy.bhattacharya@ucl.ac.uk

NOVEMBER 2005

- 24–25 Apothecaries, Art and Architecture: Interpreting Georgian medicine**
Apothecaries Hall, London
Contact: archivist@apothecaries.org

DECEMBER 2005

- 5 One-day conference in the history of altitude medicine**
Centre for the History of Science, Technology and Medicine,
University of Manchester
Contact: Jorge Lossio ([E jorge.lossio@stud.man.ac.uk](mailto:E.jorge.lossio@stud.man.ac.uk))

JANUARY 2006

- 9–10 History of Medicine in South-east Asia**
Center for Khmer Studies, Siem Reap, Cambodia
Contact: Lesley Perlman ([E lperlman@khmerstudies.org](mailto:E.lperlman@khmerstudies.org))
www.khmerstudies.org/events/medecine.htm

MARCH 2006

- 22–25 European Social Science History Conference**
Amsterdam, The Netherlands
Contact: Els Hiemstra ([E ghi@iisg.nl](mailto:E.ghi@iisg.nl)) www.iisg.nl/esshc

APRIL 2006

- 10–12 Working with Dust: Health, dust and diseases
in the history of occupational health**
Centre for Medical History, University of Exeter
Contact: Claire Keyte ([E cfmhmail@exeter.ac.uk](mailto:E.cfmhmail@exeter.ac.uk))

MAY 2006

- 11–13 International Conference on the History of Suicide**
McMaster University, Hamilton, Canada
Contact: Dr David Wright ([E dwright@mcmaster.ca](mailto:E.dwright@mcmaster.ca))

JUNE 2006

- 28–30 SSHM Annual Conference**
Practices and Representations of Health: Historical perspectives.
Centre for the History of Medicine, University of Warwick, Coventry.
Contact: Molly Rogers ([E molly.rogers@warwick.ac.uk](mailto:E.molly.rogers@warwick.ac.uk))

AUGUST 2006

- 26–30 International Congress on the History of Medicine**
Budapest, Hungary
Contact: Klara Papp ([E info@ishm2006.hu](mailto:E.info@ishm2006.hu)) www.ishm2006.hu

SEPTEMBER 2006

- 18–19 Importance of Place in Medical Practice**
Centre for Medical History, University of Exeter
Contact: Claire Keyte ([E cfmhmail@exeter.ac.uk](mailto:E.cfmhmail@exeter.ac.uk))

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